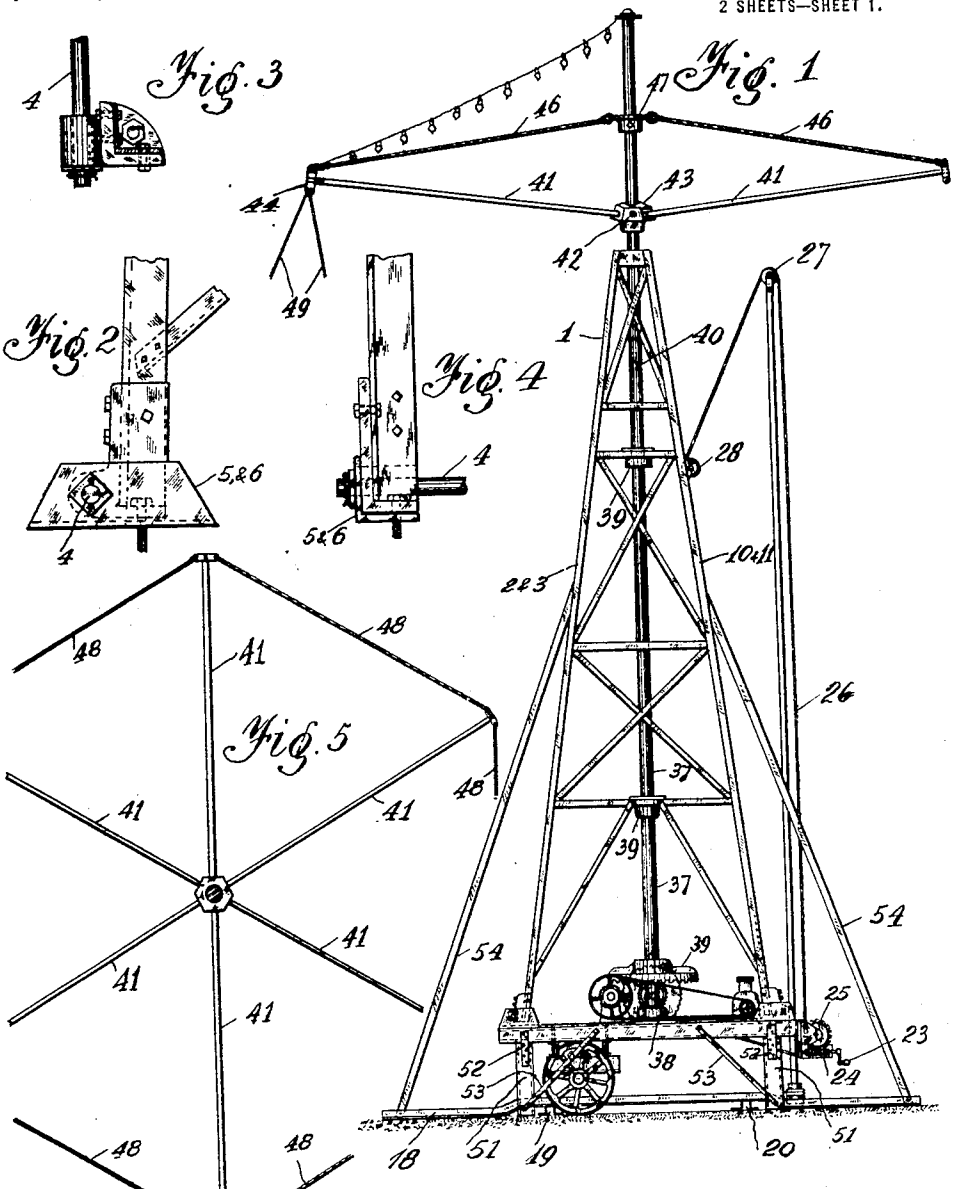
M. UNGER, B. S. VEAZIE AND J. W. ZARRO.

AMUSEMENT DEVICE.

APPLICATION FILED SEPT. 14, 1920.

1,397,938. Patented Nov. 22, 1921.

2 SHEETS—SHEET 1.



INVENTORS.
Morris Unger, Bernhard S. Veazie and
Joseph W. Zarro by
Ralph Dewath
Attorney

M. UNGER, B. S. VEAZIE AND J. W. ZARRO.

AMUSEMENT DEVICE.

APPLICATION FILED SEPT. 14, 1920.

1,397,938. Patented Nov. 22, 1921.

2 SHEETS—SHEET 2.

Fig. 8

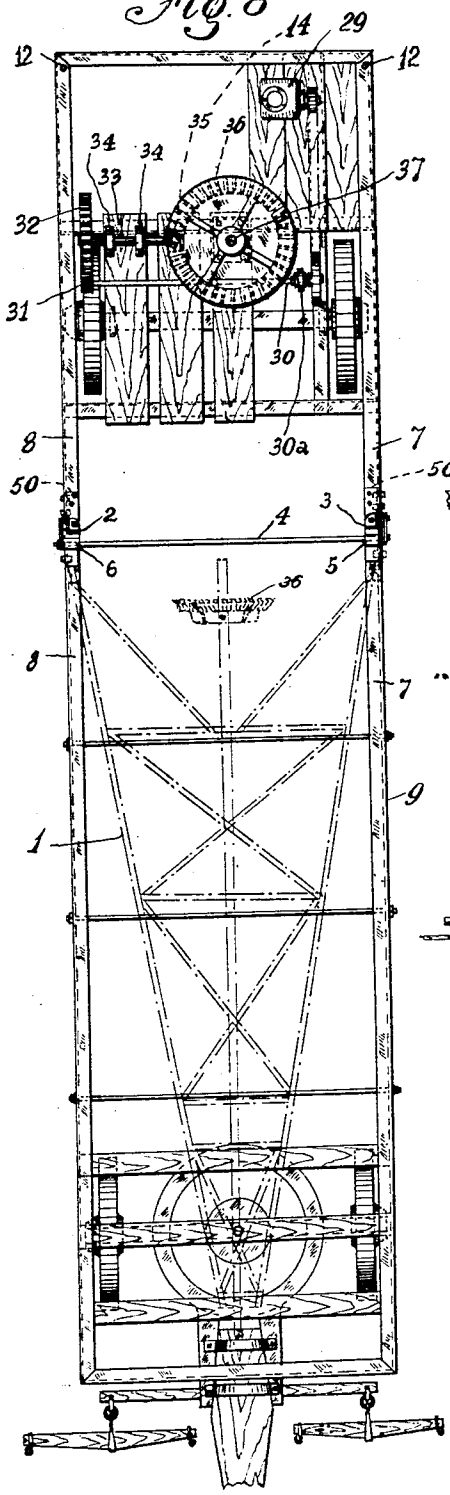


Fig. 9

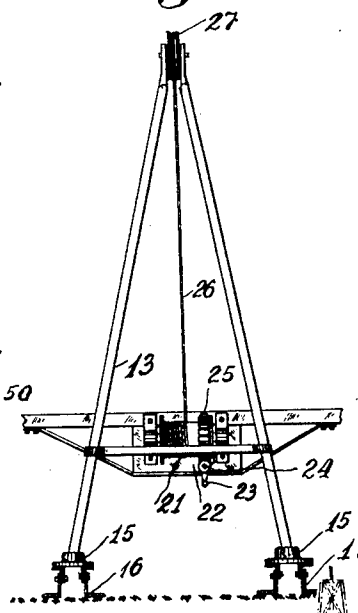


Fig. 10

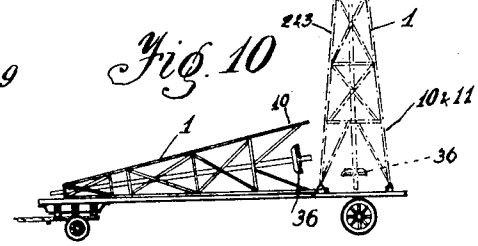
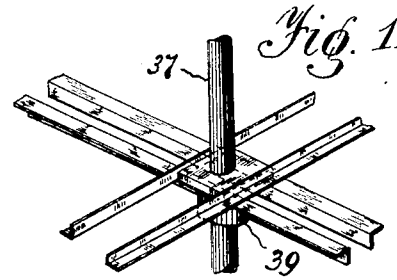


Fig. 11



INVENTORS.

Morris Unger, Bernhard S. Veazie and Joseph W. Zarro by

Ralph Donath

Attorney

UNITED STATES PATENT OFFICE.

MORRIS UNGER, BERNARD S. VEAZIE, AND JOSEPH W. ZARRO, OF PITTSBURGH, PENNSYLVANIA.

AMUSEMENT DEVICE.

1,397,938. Specification of Letters Patent. Patented Nov. 22, 1921.

Application filed September 14, 1920. Serial No. 410,236.

To all whom it may concern:

Be it known that we, MORRIS UNGER, BERNARD S. VEAZIE, and JOSEPH W. ZARRO, citizens of the United States, residing at Pittsburgh, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Amusement Devices, of which the following is a specification.

This invention relates to amusement devices and more particularly to what is commonly known as aerial swings in which a plurality of passenger-cars are suspended from a rotated member, supported by a tower, so as to be caused to move through the air in a circular path.

One of the main objects of the invention is to provide a construction which can be installed and transported on a special truck or wagon. Another object is to permit the erection or dismantling to be done in the minimum of time. A further object is to provide the device with the necessary lifting apparatus for erecting purposes. Further objects will appear from the detailed description.

In the drawings:—

Figure 1 is a side elevation of the apparatus constructed in accordance with our invention and shown in condition for operation.

Fig. 2 is an enlarged side view showing one method of hingedly connecting the feet of the tower to the truck frame.

Fig. 3 is a top plan view of Fig. 2.

Fig. 4 is a front elevation corresponding to Fig. 2

Fig. 5 is a top plan view of the top frame-work supporting the passenger-cars.

Fig. 6 is a front view of a connecting member, or spider, secured at the outer end of the arms of the top frame.

Fig. 7 is a side view of Fig. 6.

Fig. 8 is a top plan view of truck with the tower shown in its lowered position.

Fig. 9 is a rear elevation of the erection derrick.

Fig. 10 is a diagrammatic representation of the truck showing the tower in its lowered and raised position.

Fig. 11 is a perspective view showing the preferred method of guiding the main shaft.

Referring more in detail to the various drawings, the apparatus consists of a tower 1, preferably of pyramidal shape and rectangular cross-section, the two forward legs 2 and 3 of which are hingedly and permanently mounted on pin 4 secured in suitable brackets 5, 6, positioned on the top of the frame member 7 and 8 of the truck 9. When the tower is raised, the two hind legs 10 and 11 are secured to the truck frame by means of bolts inserted through the sole-plate of these legs and through the suitable holes 12 provided in the truck frame.

The raising and lowering of the tower is accomplished by means of the special derrick 13, of A shaped frame construction, which is removably secured to the rear end 14 of the truck and the two legs of which are each set in a sole-plate 15 mounted on the feet 16 and 17 of the cross-shaped ground frame 18, the other pair of feet of said frame being indicated by the numerals 19 and 20 in Fig. 1. The windlass 21 used in connection with the derrick is permanently mounted on the base plate 22 depending from the rear end of the truck frame, and is operated by the crank 23 secured on the shaft of the worm 24 which engages the worm-wheel 25 connected to the drum of the windlass. The hoisting cable 26 is wound around said drum and is carried over the guide pulley 27 and attached to the tower at a suitable point 28.

The driving mechanism for the device is installed at the rear end of the truck and consists of a motor 29 belt connected to a counter-shaft 30 provided with a friction coupling 30^a and a pinion 31 meshing with gear 32 securely mounted on the shaft 33, guided and supported by the bearings 34; the other end of said shaft is provided with a bevel gear 35 meshing with the gear 36 mounted on the lower end of the main shaft 37 which extends through and above the tower and which carries the whole top frame and passenger-cars. The lower end of the main shaft rests upon the cup bearing 38 mounted on the truck and the shaft is guided at various intervals by bearings 39 supported by the frame-work of the tower. The upper part of the main shaft is connected to the lower part by a claw-coupling 40 which may be cut directly in the shaft, as shown in Fig. 1 or else mounted separately. The arms 41 of the top frame have their inner ends engaging suitable pockets 42 provided in the hub member 43 mounted on the main shaft whereas the outer ends are provided with a connecting member or spider 44 hav-

ing four lugs arranged in the form of a cross. The upper lug is used for attaching the tension members 46 which connect the outer ends of the arms 41 to the flanged hub 47 positioned near the top of the main shaft. The two horizontal lugs of the spider serve to connect the ends of all the arms by means of the cables or rods 48 in order to distribute the stresses among the arms and to insure the proper spacing of their outer ends. The lower lugs of the spiders are the ones to which the passenger-cars are suspended by means of the rods 49 indicated in Fig. 1.

The truck frame is constructed in two parts, the rear part with the driving mechanism is the one on which the tower stands when the apparatus is in operation and the front end is used solely for carrying the tower when it is lowered for transport; it is also at the front end that the horses are hitched. The two parts of the truck are removably connected together by suitable splice-plates and bolts as indicated by the numeral 50 in Fig. 8. When the apparatus is to be set up for operation, the tower is first raised on the rear end of the truck, by means of the derrick 13 and the forward end is then detached, as owing to its great length it would interfere with the motion of the passenger-cars, and the exit of the public. The rear end is then provided with legs 51 which are detachably secured to it by means of the splice-plates 52 and braces 53. The tower is moreover strengthened on its four sides by means of the struts 54 removably secured to the tower and fastened at their lower end by means of bolts to the feet of the ground frame 18.

When the apparatus is to be transported, the top frame and the upper part of the main shaft are disassembled and the forward part of the truck is connected to the rear part, after the tower struts have been removed. The hind legs of the tower are then unbolted from the truck frame and the tower is slowly lowered with the derrick until it rests upon the forward end of the truck. The derrick frame and ground frame as well as the other disassembled parts of the apparatus are then loaded on the truck and the whole device is ready for transportation.

As will be understood, it may be found desirable to resort to slight changes in details of construction and arrangement of the different parts of the apparatus without departing from the field and scope of the invention, and we intend to include all such variations, as fall within the scope of the appended claims, in this application in which a preferred form only of our invention is disclosed.

What we claim is:—

1. In an amusement device of the character described, the combination of a truck provided with a substantially level platform; a pyramidal tower of rectangular base and built in one unit, mounted thereon and hingedly connected at the base upon said platform; a rotatable member carried by said tower and centrally thereof; means for rotating said member; removable lifting means for raising said tower and means for securing said lifting means to said truck.

2. In an amusement device of the character described, the combination of a truck provided with a substantially level platform and comprising two separate sections; means for securing said sections in alinement; a pyramidal tower of rectangular base and built in one unit, mounted thereon and hingedly connected at the base upon said platform; a rotatable member carried by said tower and centrally thereof; means for rotating said member; removable lifting means for selectively raising or lowering said tower into vertical or horizontal position respectively, and means for securing said lifting means to said truck.

3. In an amusement device of the character described, the combination of a truck comprising two sections; means for detachably connecting said sections; a pyramidal tower of rectangular base, and built in one unit, mounted upon the rear section of said truck and hingedly connected thereon at the base; a rotatable member carried vertically by said tower and centrally thereof; means positioned on the rear section of said truck, for rotating said member; lifting means for raising said tower and means for detachably securing said lifting means to the rear end of said truck.

4. In an amusement device of the character described, the combination of a truck comprising two sections of different lengths; means for detachably connecting said sections; a pyramidal tower of rectangular base, and built in one unit, mounted upon the rear section of said truck and hingedly connected thereon at the base; a rotatable member carried vertically by said member and centrally thereof; means positioned on the rear section of said truck for rotating said member; lifting means for raising said tower; means for detachably securing said lifting means to the rear end of said truck, and a plurality of legs detachably securable to the rear section of said truck.

5. In an amusement device of the character described, the combination of a truck comprising two sections of different lengths; means for detachably connecting said sections; a pyramidal tower of rectangular base, and built in one unit, mounted upon the rear section of said truck and hingedly connected thereon at the base; a rotatable member carried vertically by said member and centrally thereof; means positioned on the rear section of said truck for rotating said member; a derrick; means for detach-

ably securing said derrick to the rear end of said truck and a plurality of legs detachably securable to the rear section of said truck.

6. In an amusement device of the character described, the combination of a truck comprising two sections of different lengths; means for detachably connecting said sections; a pyramidal tower of rectangular base, and built in one unit, mounted upon the rear section of said truck and hingedly connected thereon at the base; means for securing said tower into vertical position; a rotatable member carried vertically by said member and centrally thereof; means positioned on the rear section of said truck for rotating said member; a derrick; means for detachably securing said derrick to the rear end of said truck and a plurality of legs detachably securable to the rear section of said truck.

In testimony whereof we affix our signatures.

MORRIS UNGER.
BERNARD S. VEAZIE.
JOSEPH W. ZARRO.